



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,957	06/21/2001	Chien-Chung Sun	3313-0337P-SP	2768

2292 7590 10/23/2002

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

LE, DANG D

ART UNIT	PAPER NUMBER
----------	--------------

2834

DATE MAILED: 10/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/884,957

Applicant(s)

SUN, CHIEN-CHUNG

Examiner

Dang D Le

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 9/17/02 have been fully considered but they are not persuasive. The applicant's argument is on the ground that Hirano et al. use screws instead of magnetic pins and the pins are smaller than the screws. It is noted that the claims are open-ended claims and they can be interpreted as broad as possible. The claims do not positively identify the size of the magnetic pins. The claims neither positively exclude the fact that the magnetic pins are screw members.

Therefore, the rejection is still deemed proper and repeated herein.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirano et al.

Regarding claim 1, Hirano et al. show a D.C. brushless voice-coil motor (no patentable weight given), comprising:

- A circuit board (3) having printed circuits located thereon and at least two electric power supply input contacts (34, 35);

- At least two induction coils (4-1, 4-2) wound radially and located on the circuit board;
- A magnetic element (2') having a plurality of magnetic poles arranged in a co-plane fashion and being disposed above the induction coils;
- At least two magnetic pins (15, 15') being magnetism conductive and located between the circuit board and the magnetic element (Figure 1), and also being disposed between the induction coils (Figure 9), and becoming magnetized when contact the magnetic element: and
- A controller (7, 6) located on the circuit board and connected electrically to the induction coils for activating the induction coils to form magnetic poles;
- Wherein the induction coils (4-1, 4-2) generate magnetism to become magnetic poles to repulse the magnetic element when electric current flows through the induction coils thereby enabling the magnetic element to generate rotational kinetic energy.

Regarding claim 2, it is noted that Hirano et al. also show a casing (9, 20) made of a material which is magnetism non-conductive.

Regarding claim 3, it is noted that Hirano et al. also show the casing including a base plate (9) and an upper cap (20).

Regarding claim 4, it is noted that Hirano et al. also show the upper cap (20) having an aperture (for shaft 13) formed at the center of a top wall thereof and an opening (for magnets 2) located on a sidewall at the bottom end thereof.

Regarding claim 5, it is noted that Hirano et al. also show the circuit board (3) having a spindle (13) disposed at the center thereof.

Regarding claim 6, it is noted that Hirano et al. also show a guard ring (for bearing 11) located between the circuit board and the magnetic element.

Regarding claim 7, it is noted that Hirano et al. also show the guard ring being made of a material which is magnetism non-conductive.

Regarding claim 10, it is noted that Hirano et al. also show the magnetic force direction of the induction coils being axial.

Regarding claim 11, it is noted that Hirano et al. also show the magnetic force direction of the magnetic element being axial.

Regarding claim 12, it is noted that Hirano et al. also show the controller being a microprocessor.

Regarding claim 13, it is noted that Hirano et al. also show a rotary element (25) disposed above the magnetic element for rotating with the magnetic element to output rotational power.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirano et al. in view of Hayashi.

Regarding claim 8, Hirano et al. show all of the limitations of the claimed invention except for the guard ring further having a first bore and a second bore for holding the induction coils, a third bore for holding the spindle, a fourth bore for holding the controller, and a fifth bore and a sixth bore for holding the magnetic pins.

Hayashi shows the guard ring (35) further having a first bore and a second bore for holding the induction coils, a third bore for holding the spindle (Figure 3) for the purpose of supporting the stator coils.

Since Hirano et al. and Hayashi are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include the guard ring with a first bore and a second bore for holding the induction coils, a third bore for holding the spindle, a fourth bore for holding the controller, and a fifth bore and a sixth bore for holding the magnetic pins as taught by Hayashi for the purpose discussed above.

Regarding claim 9, it is noted that Hayashi also shows a casing (26) with an opening, the circuit board having an electric connection port (Figure 2, connecting to 52) extended outwards through the opening of the casing, the electric connection port having electric power supply input contacts located thereon.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Information on How to Contact USPTO

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

DDL
October 21, 2002

DL

Dang D Le